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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,098	01/23/2002	Pingxi Ma	01CON356P	2773

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EXAMINER

NGUYEN, KHANH V

ART UNIT PAPER NUMBER

2817

DATE MAILED: 06/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/057,098	MA ET AL.	
	Examiner	Art Unit	
	Khanh V. Nguyen	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-17 and 19-24 is/are rejected.
- 7) ☒ Claim(s) 3 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

**Note: Osawa and Pickett references already cited in the last Office Action.**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5, 7, 8, 10, 11, 14, 16, 18-22, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osawa (4,528,520).

Regarding claims 1, 14, Osawa discloses the claimed invention except the specific type of transistor (SiGe HBT) transistor claimed. Osawa (Fig. 9) discloses an amplifier circuit comprising: a bipolar transistor (6); a field effect transistor (5); the base of bipolar transistor (6) coupled to input (8); the emitter of bipolar transistor (6) coupled

to a first reference voltage (GROUND); the collector of bipolar transistor (6) coupled to the source of field effect transistor (5); the gate of the field effect transistor coupled to bias voltage ( $E_b$ ); the drain of the field effect transistor (5) coupled to a second reference voltage ( $V_{cc}$ ); and the drain of the field effect transistor (5) coupled to output (1). However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have replaced the bipolar transistor of Osawa with a SiGe HBT transistor since such utilization would be cheaper, time to market and manufacturing cost. Also, utilizing such known technology (SiGe HBT) is considered a matter of design engineering to meet the design criteria of a particular implementation. Regarding claim 14, wherein the type of input signal used would consider an intended use of the invention to meet the design criteria of a particular implementation.

Regarding claims 2, 9, 17, wherein the emitter of the bipolar transistor (6) coupled to the first reference voltage (GROUND) through a resistor (7) which can be read as a first impedance circuit.

Regarding claims 4, 5, 19, wherein the drain of the field effect transistor (5) coupled to the second reference voltage ( $V_{cc}$ ) through a combination of resistor, capacitor and inductors which can be read as a second impedance circuit.

Regarding claims 6, 15, wherein the bipolar transistor (6) is NPN type.

Regarding claims 7, 16, wherein the field effect transistor (5) is an N-channel FET.

Regarding claim 8, wherein the bipolar transistor (6) coupled to the field effect transistor (5) in cascode configuration.

Regarding claims 10, 20, wherein the capacitor (Cb) is coupled to the drain of field effect transistor (5).

Regarding claims 11, 21, wherein the inductor (L) coupled to the drain of field effect transistor (5) to the second reference voltage (Vcc).

Regarding claim 22, wherein the capacitor (Cb) coupled to the drain of field effect transistor (5) to the output (1).

Regarding claim 24, wherein an RF signal is inputted to the base of the bipolar transistor (6).

Regarding claim 13, Osawa discloses the claimed invention except the second reference voltage is Vdd. Osawa utilizes a voltage reference (Vcc). It would have been an obvious matter of design choice to have replaced voltage reference (Vcc) with Vdd, since applicant has not disclosed that Vdd solves any stated problem or is for any particular purpose and in light of any criticality or unexpected result it appears that the invention would perform equally well with Vdd.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Osawa in view of Pickett (4,754,233).

Regarding claim 23, Osawa discloses the claimed invention except an input capacitor coupled between the input and the base of the bipolar transistor.

Pickett (Fig. 2) discloses an input capacitor (32) coupled between input (13) and a base of bipolar transistor (36) for DC blocking.

Accordingly, it would have been obvious in view of the references, taken as a whole, to have modified the circuit of Osawa to have included an input capacitor

coupled between the input and the base of a bipolar transistor, as exemplarily taught by Pickett. Such, as modification would have imparted the advantageous benefit of provide DC blocking to the base of the bipolar transistor (see col. 2, lines 53-55) as taught by Pickett, to Osawa reference, thereby suggesting the obviousness of such a modification.

***Allowable Subject Matter***

Claims 3, 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

Claims 3, 18 are allowed over the prior art because none of the prior art disclosed or suggested showing the particular structure and/or operation recited in these claims namely:

Claims 3,18 call for, among others, wherein the impedance is an inductor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh V. Nguyen whose telephone number is (703) 306-9058. The examiner can normally be reached from 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service at (703) 872-9317.

*NKV*

*06/09/03*

A handwritten signature in black ink, appearing to read 'Khanh Van Nguyen', with a long horizontal flourish extending to the right.

**Nguyen, Khanh Van**

**Group 2800, Art Unit 2817**